

REMARKS

Claims 1 and 2 have been rejected under 35 U.S.C. 102(b) as being anticipated by Yang (U.S. Patent No. 6,329,248).

Claim 1 has been amended to recite "the first floating gate electrode has a first edge that is substantially vertical with respect to an upper surface of the semiconductor region ... the second floating gate electrode has a second edge that is substantially vertical with respect to the upper surface of the semiconductor region, the second edge located adjacent to the first edge, wherein the first and second edges define a gap over the channel region". Support for these amendments is found in the specification as originally filed at paragraph [0033]-[0034] and in Fig. 5. No new matter is added.

Yang fails to teach first and second edges as recited in amended Claim 1. In contrast, Yang teaches the implementation of a "pair of opposing floating gates, which also collectively form a mirror-imaged outwardly-diverging configuration". (Emphasis added.) (Yang, Col. 7, lines 38-40.) This "mirror-imaged outwardly-diverging configuration" which is illustrated in Figs. 3C-3F of Yang, exhibits adjacent curved sidewalls. Yang teaches that this configuration "allows the control gate of the flash memory to be formed to have a very short length using conventional photolithographic technique." (Yang, Col. 7, lines 40-42.) Yang does not provide motivation to modify the "mirror-imaged outwardly-diverging configuration".

For the foregoing reasons, Yang fails to teach "first and second edges" as recited by Claim 1. For these reasons, Claim 1 is not anticipated by Yang.

Claim 2, which depends from Claim 1, is not anticipated by Yang for at least the same reasons as Claim 1.

Claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Yang et al. (U.S. Patent No. 5,973,353).

While Yang et al. has been cited to teach a control gate having metal silicide, Yang et al. fails to remedy the above described deficiencies of Yang, with respect to Claim 1. Claim 9, which depends from Claim 1, is therefore allowable over Yang and Yang et al. for at least the same reasons as Claim 1.

Claims 3-6 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Pham et al. (U.S. Patent No. 6,242,306).

While Pham et al. has been cited to teach "first and second source/drain regions continuous with first and second bit lines", Pham et al. fails to remedy the above described deficiencies of Yang, with respect to Claim 1. Claim 9, which depends from Claim 1, is therefore allowable over Yang and Pham et al. for at least the same reasons as Claim 1.

Claims 18-28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al. (U.S. Patent No. 6,281,545 in view of Pham et al.

Claim 18 recites "a first sidewall oxide region, having a different composition than the dielectric layer, located on a second sidewall of the first floating gate electrode", "a second sidewall oxide region, having a different composition than the dielectric layer, located on a second sidewall of the second floating gate electrode" and "a

control gate located over the dielectric layer, the first sidewall oxide region and the second sidewall oxide region".

As noted by the Examiner, Liang et al. does not "show the control gate over the first and second sidewall oxide regions". However, the Examiner indicates that "Pham et al. teach ... a control electrode formed over the sidewalls of the floating gates 24 for making an improved EEPROM (Column 2 Lines 41 to 65)."

Liang et al. teaches that the control gate 20/22 is formed (Fig. 7), and then the dielectric spacers 28 are formed adjacent to sidewalls of the control gate 20/22 (and the floating gate electrodes 18' and 18") (Fig. 8). Because the control gate 20/22 is patterned before the dielectric spacers 28 are formed, it is not possible for the control gate 20/22 to be formed over the dielectric spacers 28, regardless of the teachings of Pham et al. (Note that Pham et al. teaches that a control gate 26 is formed over a barrier layer 17, in a manner inconsistent with Liang et al.)

For these reasons, Claim 18 is allowable over Liang in view of Pham et al. Claims 19-28, which depend from Claim 18, are allowable over Liang et al. in view of Pham et al. for at least the same reasons as Claim 18.

CONCLUSION

Claims 1-6, 9-10 and 18-28 are pending in the present Application. Reconsideration and allowance of these claims is respectfully requested. If there are any questions, please telephone the undersigned at (925) 895-3545 to expedite prosecution of this case.

Respectfully submitted,



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<u>3/26/03</u>	<u>Carrie Reddick</u>
Date	Signature